

U.S. Pat. Appl. Ser. No. 10/561,635
Attorney Docket No. 10191/4069
Reply to Office Action of September 4, 2009

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. -16. (Cancelled)

17. (Original) An optical sensor assemblage, comprising:

a sensor chip assemblage including an optically transparent irradiation region, a mounting region surrounding the optically transparent irradiation region, and a wire-bond region;

an optically isolating mounting frame including a chip receiving region and a plurality of connector elements; and

an optically isolating packaging device, wherein:

the sensor chip assemblage is joined in the mounting region to the chip receiving region, and in the wire-bond region to at least one of the connector elements,

the chip receiving region includes a window disposed in such a way that at least a portion of the optically transparent irradiation region is not covered by the chip receiving region, and

the optically isolating packaging device surrounds the sensor chip assemblage and the optically isolating mounting frame in such a way that optical radiation can enter the sensor chip assemblage substantially only through the window.

18. (Currently Amended) The optical sensor assemblage as recited in Claim [[1]] 17, wherein:

the sensor chip assemblage includes a first chip and a second chip,

the first chip includes a first surface and a second surface oppositely located to the first surface,

the second chip includes a third surface and a fourth surface oppositely located to the third surface,

the first chip and the second chip are joined via the first surface and the third surface, the first chip and the second chip enclose a cavity in which a sensor is disposed,

the first chip includes on the first surface the wire-bond region,

the wire-bond region protrudes laterally beyond the second chip, and

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at least another of the connecting elements is bonded onto the wire-bond region with a bonding pad at an end of a conductor path.

19. (Currently Amended) The optical sensor assemblage as recited in Claim [[2]] 18, wherein the optically transparent irradiation region and the mounting region are provided on the second surface of the first chip.

20. (Currently Amended) The optical sensor assemblage as recited in Claim [[2]] 18, wherein the optically transparent irradiation region and the mounting region are provided on the fourth surface of the second chip.

21. (Currently Amended) The optical sensor assemblage as recited in Claim [[3]] 19, wherein:

the chip receiving region includes a fifth surface and a sixth surface oppositely located to the fifth surface, and
the fifth surface is joined to the mounting region.

22. (Currently Amended) The optical sensor assemblage as recited in Claim [[5]] 21, wherein:

the sixth surface is not covered by the optically isolating packaging device, and
the sixth surface lies in a plane of a lower side of the optically isolating packaging device.

23. (Currently Amended) The optical sensor assemblage as recited in Claim [[6]] 22, wherein:

the connector elements protrude out of oppositely located lateral surfaces of the optically isolating packaging device, and
ends of the connector elements lie in the plane of the lower side.

24. (Currently Amended) The optical sensor assemblage as recited in Claim [[7]] 23, further comprising:

a substrate that includes a through-hole in a region of the window, wherein:
the ends of the connector elements and the sixth surface are joined to the substrate.

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25. (Currently Amended) The optical sensor assemblage as recited in Claim [[5]] 21, wherein:

the sixth surface is partially covered by the optically isolating packaging device, and a lower side of the optically isolating packaging device lies in a plane below the sixth surface.

26. (Currently Amended) The optical sensor assemblage as recited in Claim [[9]] 25, wherein:

the connector elements project out of oppositely located lateral surfaces of the optically isolating packaging device, and ends of the connector elements lie in the plane of the lower side.

27. (Currently Amended) The optical sensor assemblage as recited in Claim [[10]] 26, further comprising:

a substrate that includes a through-hole in a region of the window, wherein: the ends of the connector elements are joined to the substrate.

28. (Currently Amended) The optical sensor assemblage as recited in Claim [[11]] 27, further comprising:

an optical filter device provided on at least one of the substrate in a region of the through-hole and one of the second surface and the fourth surface.

29. (Currently Amended) The optical sensor assemblage as recited in Claim [[1]] 17, wherein the optically isolating mounting frame includes a solder frame.

30. (Currently Amended) The optical sensor assemblage as recited in Claim [[4]] 20, wherein the wire-bond region projects laterally beyond the chip receiving region.

31. (Withdrawn) A method for manufacturing an optical sensor assemblage, comprising:
joining a sensor chip assemblage in a mounting region to a chip receiving region, and in a wire-bond region to at least one connector elements; and applying the packaging device in a molding process.

32. (Currently Amended) The optical sensor assemblage as recited in Claim [[1]] 17, wherein the optical sensor assemblage includes a thermopile sensor assemblage.